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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,454	09/13/2004	Daniel Eigenmann	0115-045048	1357
28289	7590	07/13/2005		
THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			EXAMINER BLEVINS, JERRY M	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/507,454

Applicant(s)

EIGENMANN ET AL.

Examiner

Jerry Martin Blevins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/07/2005</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-26, 29, 30, 32, 38, and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent to Nakajima et al, number 6,151,432.

Regarding claim 21, Nakajima teaches a fiber-optic connector system (Figure 11), comprising an adapter (90) and individual optical plug-in connectors (20) having a respective optical fiber (Figure 8, element 1) ending in a ferrule (21), and wherein each optical fiber plug-in is configured to be respectively inserted (into insert 62) into the adapter from two opposing sides (as seen in Figures 7, 9, and 10) to produce an optical connection between the ends of the two optical fibers (column 12, lines 43-45), wherein the adapter includes an adapter housing (90) having a plurality of guiding sleeves (65) arranged parallel next to one another (as demonstrated in Figures 9-11) and configured to receive the optical plug-in connectors from both sides (Figures 9-11), wherein the adapter housing includes a plurality of an upper part and a lower part (elements 91 and 92) that are adapted to connect to one another and are adapted to hold the guiding sleeves (Figure 11 and column 13, lines 10-16).

Regarding claim 22, Nakajima teaches the limitations of the base claim 21. Nakajima also teaches that the upper part is flat and plate-shaped and the lower part is flat and plate-shaped (Figure 11).

Regarding claim 23, Nakajima teaches the limitations of the base claim 22. Nakajima also teaches that one of the upper and lower parts is comprised of guiding means (sleeve 65) for aligning the upper and lower parts with each other (column 13, lines 10-22).

Regarding claim 24, Nakajima teaches the limitations of the base claim 23. Nakajima also teaches that the guiding means comprise a number of guiding pins (63) arranged in a distributed manner, wherein the guiding pins are attached in the upper or lower part and enter into a corresponding bore in the corresponding lower or upper part, respectively (Figure 11, and column 13, lines 10-22).

Regarding claim 25, Nakajima teaches the limitations of the base claim 22. Nakajima also teaches a connecting means for releasably connecting the upper part and the lower part (column 13, lines 10-15).

Regarding claim 26, Nakajima teaches the limitations of the base claim 5. Nakajima also teaches that the connecting means comprise screw coupling (flanges 61A, column 5, lines 57 and 58).

Regarding claim 29, Nakajima teaches the limitations of the base claim 21. Nakajima also teaches a means for fastening or aligning the adapter housing (column 4, lines 4-6 and 29-31).

Regarding claim 30, Nakajima teaches the limitations of the base claim 21.

Nakajima also teaches that the distance between the guiding sleeves, measured from sleeve axis to another sleeve axis, is approximately twice the inside diameter of the guiding sleeves (Figures 9-11).

Regarding claim 32, Nakajima teaches the limitations of the base claim 21.

Nakajima also teaches that the plug-in connectors respectively include a plastic rectilinear holder (24), wherein the holder is elongate in the plugging direction (Figure 8), encloses an interior space (in which fiber 1 is inserted) and includes an opening in a front side for accommodating the ferrule (Figure 8) and a through-bore in a rear side for receiving a fiber-optic cable (Figure 8), and wherein a spring element (25) is mounted in the interior space of the holder for the spring-mounting of the ferrule (Figure 8).

Regarding claim 38, Nakajima teaches the limitations of the base claim 21.

Nakajima also teaches that the guiding sleeves in the adapter are combined into a plurality of groups, respectively comprising a plurality of guiding sleeves (Figures 9-11).

Regarding claim 39, Nakajima teaches the limitations of the base claim 38.

Nakajima also teaches that the adapter comprises two groups of six guiding sleeves (Figures 10 and 11 teach two groups of eight guiding sleeves which would include the smaller subset of two groups of six guiding sleeves).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima.

Regarding claim 27, Nakajima teaches the limitations of the base claim 22. Nakajima also teaches a central web (80) running transversely in relation to a plugging direction (Figure 10), including a plurality of members (81) for receiving the guiding sleeves, wherein the members are arranged one behind the other in a longitudinal direction of the central web. Nakajima does not teach that the central web includes a plurality of half-cylindrical depressions for receiving the guiding sleeves. However, Nakajima states that the prior art teaches a half-cylindrical depression (Prior Art Figure 24, element 203) for receiving a guiding sleeve (207). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the half-cylindrical depressions taught by the prior art, as stated by Nakajima, into the design of the plug-in connector of Nakajima. The motivation would have been to improve the rotational freedom of the securing of the guiding sleeve.

Regarding claim 28, Nakajima teaches the limitations of the base claim 27. Nakajima does not teach that the upper and lower parts comprise guiding rails running between the guiding sleeves in the plugging direction and defining for each of the

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guiding sleeves an associated insertion channel for one of the plug-in connectors, wherein the guiding rails are situated in front and behind the central web. However, Nakajima states that the prior art teaches guiding rails (Figure 24, element 206) running between the guiding sleeves in the plugging direction and defining for each of the guiding sleeves an associated insertion channel for one of the plug-in connectors, wherein the guiding rails are situated in front and behind the central web (Figure 24). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the guiding rails as taught by the prior art, as stated by Nakajima, into the design of the plug-in connector of Nakajima. The motivation would have been to improve the alignment of the guiding sleeves.

Claims 31, and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima in view of US Patent to Schmalzigaug et al, number 6,811,321.

Regarding claim 31, Nakajima teaches the limitations of the base claim 21. Nakajima does not teach that the ferrules have an outside diameter of 1.25 mm. Schmalzigaug teaches a plug-in connector system comprising ferrules of outside diameter of 1.25 mm (column 4, lines 24-26). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the ferrules of diameter of 1.25 mm, as taught by Schmalzigaug, into the plug-in connector system of Nakajima. The motivation would have been to reduce costs, since 1.25 mm diameter ferrules are common.

Regarding claim 33, Nakajima teaches the limitations of the base claim 32. Nakajima does not teach that the opening for the ferrule is formed so that the opening is

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open toward the side. Schmalzigaug teaches a plug-in connector comprising an opening (Figures 3 and 4, element 30) for a ferrule (23) formed so that the opening is open toward the side (Figures 3 and 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to form the opening of Nakajima so that the opening is open toward the side, as taught by Schmalzigaug. The motivation would have been to more easily facilitate the assembly of the ferrule (Schmalzigaug, column 5, lines 9-12).

Regarding claim 34, Nakajima teaches the limitations of the base claim 32. Nakajima does not teach that the ferrule is inserted in a metallic inner part arranged in the interior space of the holder, wherein the inner part includes a guiding sleeve for guiding the spring element, and wherein the inner part comprises means for adjusting the inner part into different angular positions by rotation about a longitudinal axis of the inner part. Schmalzigaug teaches a plug-in connector wherein each of the ferrules is inserted into a metallic inner part arranged in the inner space of the holder, wherein the inner part includes a guiding sleeve for guiding the spring element, and wherein the inner part comprises means for adjusting the inner part into different angular positions by rotation about a longitudinal axis of the inner part (all, column 7, lines 19-27, Schmalzigaug, claim 9). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the above teachings of Schmalzigaug into the plug-in connector of Nakajima. The motivation would have been to improve the alignment of the plug-in connector.

Regarding claim 35, Nakajima in view of Schmalzigaug teaches the limitations of the base claim 34. Nakajima does not teach that the adjusting means comprise an adjusting portion having a square cross section, wherein the adjusting portion adjoins the guiding sleeve in the front region of the inner part and includes a receiving bore for receiving the ferrule and supporting the spring element by a front end of the spring element. Schmalzigaug teaches that the adjusting means comprise an adjusting portion having a square cross section, wherein the adjusting portion adjoins the guiding sleeve in the front region of the inner part and includes a receiving bore for receiving the ferrule and supporting the spring element by a front end of the spring element (all, column 2, line 52 – column 3, line 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the above teachings of Schmalzigaug into the plug-in connector of Nakajima. The motivation would have been to improve the stability and adjustability of the plug-in connector (Schmalzigaug, column 3, lines 6-8).

Regarding claim 36, Nakajima teaches the limitations of the base claim 32. Nakajima does not teach that a side wall on the holders respectively includes a resilient portion with a latching element arranged thereon, and wherein the adapter housing includes latching openings into which the plug-in connectors are adapted to engage with corresponding latching elements on insertion in the adapter housing. Schmalzigaug teaches a plug-in connector wherein a side wall on the holders respectively includes a resilient portion with a latching element arranged thereon, and wherein the adapter housing includes latching openings into which the plug-in connectors are adapted to engage with corresponding latching elements on insertion in the adapter housing (all,

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Schmalzigaug, column 3, lines 9-16). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the above teachings of Schmalzigaug into the plug-in connector of Nakajima. The motivation would have been to improve the securing of the plug-in connector.

Regarding claim 37, Nakajima teaches the limitations of the base claim 32. Nakajima does not teach that the holder comprises a metallic crimping neck for fastening the fiber-optic cable, wherein the crimping neck is adapted to be pressed with a snap fit into the through-bore of the holder, and wherein the crimping neck includes a tube stub protruding out of the holder, wherein the tube stub is adapted to receive and fasten thereto a crimping sleeve. Schmalzigaug teaches a plug-in connector wherein the holder comprises a metallic crimping neck for fastening the fiber-optic cable, wherein the crimping neck is adapted to be pressed with a snap fit into the through-bore of the holder, and wherein the crimping neck includes a tube stub protruding out of the holder, wherein the tube stub is adapted to receive and fasten thereto a crimping sleeve (all, Schmalzigaug, column 4, lines 24-44). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the above teachings of Schmalzigaug into the plug-in connector of Nakajima. The motivation would have been to improve the securing of the ferrule.

Claims 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima in view of Schmalzigaug and Applicants' Admitted Prior Art (AAPA).

Regarding claim 40, Nakajima teaches the limitations of the base claim 21. Nakajima does not teach that each plug-in connector is adapted to be inserted into a

rectangular insertion opening. Schmalzigaug teaches a plug-in connector adapted to be inserted into a rectangular insertion opening (Figures 3 and 4, element 35). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the rectangular insertion opening of Schmalzigaug into the design of the plug-in connector of Nakajima. The motivation would have been to improve the securing of the plug-in connector. Nakajima also does not teach that the opening has a width of approximately 2.4 mm and a height of approximately 3.4 mm. AAPA teaches that plug-in connectors with a width of 2.4 mm and a height of 3.4 mm are widely known (Specification, page 13, lines 15-19). It would have been obvious to one of ordinary skill in the art to make the opening of Nakajima in view of Schmalzigaug, to accommodate the widely known connector dimension, as taught by AAPA. The motivation would have been to improve the securing of the plug-in connector in an economically efficient manner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMB



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